

Financial Outlook

Establishing MPO Transportation Plan fiscal forecasts for a 20 plus year planning horizon in today's transportation environment is a challenging endeavor. Though, federal transportation funds have historically been authorized through six year legislative cycles, in recent years passing long term bills has proven a challenge. On December 4, 2015, President Obama signed into law the Fixing America's Surface Transportation Act, or "FAST Act" authorizing \$305 billion over fiscal years 2016 through 2020, the first long term bill since 2005. The transportation bill was extended for one year on October 1, 2020.

Consistent with federal transportation regulations, MVRPC has developed planning level "year of expenditure" revenue projections and cost estimates through the year 2050. MVRPC projections include Federal, State, and local sources. These projections represent MVRPC's outlook on available future transportation program funding. MVRPC is projecting average growth in transportation program revenue at 2.3% and average project inflation at 2.3%. MVRPC's assumption is that over the Transportation Plan's 30 year planning horizon, existing revenue sources will keep pace with inflation.

The Ohio Department of Transportation (ODOT), a key transportation stakeholder and project implementer in the MVRPC Region, develops short term year of expenditure project cost and revenues for its statewide programs and projects and those costs are used for funded projects in the Long Range Transportation Plan. ODOT's recently updated Access Ohio 2045 includes a financial need assessment but no long term financial revenue forecast.

MVRPC also worked closely with the regional transit agencies and financial forecast were provided by each agency in year of expenditure dollars for the same periods using the FY 2021, U.S. Office of Management and Budget, U.S. Budget Economic Assumptions for Consumer Price Index for FY 2030 (2.3 percent per year) to project inflation into the future.

For each mode, the costs of the 2021 through 2050 plan projects are balanced against projected revenues and, following the FAST Act requirements, are expressed in year of expenditure dollars. The fiscal constraint for each transportation mode are summarized in Table 1.

Table 1 – Fiscal Constraint of the 2050 LRTP Projects (in millions of Year of Expenditure dollars)

Project Type	Total Revenues	Total Cost	Total Revenues - Total Cost -
Highway Maintenance/Reconstruction	\$4,240.00	\$4,240.00 \$4,240.00 0.00 (Fiscally Constrain	
Highway Operational/Safety/Capacity	\$2,959.46	\$2,326.89	+\$632.57 (Fiscally Constrained)
Transit	\$3,810.45	\$3,810.45	0.00 (Fiscally Constrained)
Ridesharing/Air Quality	\$27.18	\$27.18	0.00 (Fiscally Constrained)
Bikeway/Pedestrian	\$20.25	\$20.25	0.00 (Fiscally Constrained)

Highway Cost and Revenue Forecasts

The 2050 LRTP's 30 year forecasted highway revenues were determined by considering two main funding sources: projects in the TIP and projects financed entirely by local funds. The TIP includes funds from the Ohio Department of Transportation as well as other MPO-controlled funds. Local jurisdiction funds include Ohio Public Works funds and local revenues (e.g. gas tax, levies, etc...). Detailed information about each program including eligibility, application process, funding levels, and contact information is available on the MVRPC website at:

http://www.mvrpc.org/transportation/transportation-financing

The revenue forecast was completed by identifying the actual expenditures in years 2011-2020 and using those

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as a base to calculate the year 2050 revenue forecast. Therefore, the 30-year time period was separated into two increments. The first increment is from SFY 2021 to SFY 2024 and includes the actual programmed expenditures for that time period in the current TIP. The second increment includes the remaining 26 years in the period and is further sub-divided into three additional increments for the purposes of applying inflationary factors (2025), (2026-2030), (2031-2040), and (2041-2050). The revenues outside the TIP are based on average annual expenditures for years 2011-2020.

The TIP estimates (SFY 2021-2024) were determined by adding the amount of actual programmed expenditures in each funding source as shown in the TIP. Expenditures were then divided between maintenance/reconstruction (46%) and capacity/operational/safety (54%) based on the actual mix of such projects in the TIP and according to the categories described in Table 2.

The forecasted revenues for the entire 30 year period 2050 LRTP were then determined by adding actual TIP and local expenditures to the projected figures of the remaining 26 year forecasts from both TIP and local sources. The results can be seen in Table 3.

Table 2 - Project Types in TIP/LRTP Analysis

Maintenance/Reconstruction	Capacity/Operational/Safety
Simple Resurfacing (no widening)	Resurfacing/Reconstruction (includes new lanes)
Reconstruction (no widening)	Intersection Widenings/Improvements
Guardrail and Pavement Markers	Signal Improvements (including interconnects)
Bridge Repair/ Replacement (no additional width or lanes)	Curve Relocations/Elimination
Minor widening (shoulders)	Bridge Replacement or Realignment (on new alignment, new lanes)
Street Maintenance	Bikeways (widen curb lanes or separate paths)
Sign Upgrades	Other Safety Upgrades (which modify road profile or geometry)

Source: MVRPC

The next step in the revenue forecasting process was to determine how much of the total revenue would be available for the maintenance versus capacity improvement projects. According to MVRPC's annual survey data, the Region is expending approximately 72% of its roadway expenditures on maintenance and 28% on capacity type improvements for projects not programmed in the TIP.

The final step involved using inflation rates to adjust revenues beyond the TIP years, to year of expenditure dollars for the three LRTP periods (2025), (2026-2030), (2031-2040), and (2041-2050). After consulting several sources (National Highway Construction Cost Index, Congressional Budget Office) and finding similar long term inflationary trends, MVRPC used the latest, FY 2021, U.S. Office of Management and Budget, U.S. Budget Economic Assumptions for Consumer Price Index for FY 2030 (2.3 percent per year) to project inflation into the future. This resulted in inflation factors of 1.12, 1.20, 1.41, and 1.77 for years 2025, 2028, 2035 and 2045, the mid-years of the Plan periods (2025), (2026-2030), (2031-2040), and (2041-2050). These same factors were applied to cost estimates for any projects outside the TIP years, therefore assuming that in the long run costs and revenues will approach each other. A few projects outside the TIP years were not inflated because their cost estimates reflect ODOT's Ellis and are already inflated according to ODOT guidelines. These projects are identified in Chapter 5 as TIP: NF and YP.

In summary, Table 3 presents the result of the total revenue forecast of \$7,199.46 million, followed by Table 4 and Table 5, showing the breakdown of the total revenue forecast by funding sources for the 2050 LRTP in maintenance / reconstruction (\$4,240.00 million) and capacity / operational / safety improvements (\$2,959.46 million) projects. The revenue sources listed in Tables 3 to 5 do not include transit operating (FTA Section 5307, ODOT or local), transit capital (FTA Section 5307, 5339, ODOT, or local), or bikeway/pedestrian projects.

Table 3 – 2050 Forecasted Revenues for All Improvement Types by Funding Source (in millions of 2020 / Year of Expenditure dollars)

				Revenues						
General Source	•	Specific Source		Annual Average	Short Term Plan I (2021-2025)	Short Term Plan II (2026-2030)	Long Term Plan (2031-2040)/ (2041-2050)	For Full 30 Year Plan		
	Federal	Various Sources	247.86	81.37	329.23	406.85	813.70	2,363.48		
ODOT/MPO Controlled	State	State Match (Includes 100%)	68.03	30.70	98.73	153.50	307.00	866.23		
Funds	Other Funds (Includes Local, OPWC, & Issue 1 In Combination with State & Federal Funds)		59.28	15.99	75.27	79.95	159.90	475.02		
Ohio Public	Ohio Public W	orks Commission	52.40	13.10	65.50	65.50	131.00	393.00		
Works (LTIP and Issue 1)	Local Match		13.10	3.28	16.38	16.38	32.75	98.25		
100%	6 Local, Private,	Other	106.00	26.50	132.50	132.50	265.00	795.00		
	Federal		247.86	81.37	329.23	406.85	813.70	2,363.48		
Subtotal	State		120.43	43.80	164.23	219.00	438.00	1,259.23		
	Local, Other		178.38	45.77	224.15	228.83	457.65	1,368.27		
Total (2020 dollars)		546.67	170.94	717.61	854.68	1,709.35	4,990.98			
Total (Year of Expenditure dollars)		546.67	-	738.12	1,025.61	2,410.18/ 3,025.55	7,199.46			

Source: MVRPC

Table 4 – 2050 Forecasted Revenues for Maintenance/Reconstruction by Funding Source (in millions of 2020 / Year of Expenditure dollars)

					Re	evenues		
General Source			Four Year (2021-2024)	Annual Average	Short Term Plan I (2021-2025)	Short Term Plan II (2026-2030)	Long Term Plan (2031-2040)/ (2041-2050)	For Full 30 Year Plan
	Federal	Various Sources	165.62	43.63	209.25	218.15	436.31	1,300.02
ODOT/MPO Controlled	State	State Match (Includes 100%)	45.46	16.46	61.62	82.31	164.61	473.45
Funds	Other Funds (Includes Local, OPWC, & Issue 1 In Combination with State & Federal Funds)		39.61	8.57	48.18	42.87	85.74	262.53
Ohio Public	Ohio Public W	orks Commission	37.50	9.37	46.87	46.87	93.74	281.23
Works (LTIP and Issue 1)	Local Match		9.37	2.34	11.72	11.72	23.44	70.31
100%	6 Local, Private,	Other	75.85	18.96	94.82	94.82	189.63	568.90
	Federal		165.62	43.63	209.25	218.15	436.31	1,300.02
Subtotal	State		82.96	25.84	108.79	129.18	258.36	754.68
	Local, Other		124.84	29.88	154.72	149.40	298.81	901.74
Total (2020 dollars)		373.41	99.35	472.76	496.74	993.47	2,956.44	
Total (Year of Expenditure dollars)		373.41	-	484.68	596.08	1,400.79/ 1,758.44	4,240.00	

Table 5 – 2050 Forecasted Revenues for Operational/Safety/Capacity Improvements by Funding Source (in millions of 2020 / Year of Expenditure dollars)

					Re	evenues		
General Specific Source Source			Four Year (2021-2024)	Annual Average	Short Term Plan I (2021-2025)	Short Term Plan II (2026-2030)	Long Term Plan (2031-2040)/ (2041-2050)	For Full 30 Year Plan
	Federal	Various Sources	82.24	37.74	119.98	188.70	377.39	1,063.46
ODOT/MPO Controlled	State	State Match (Includes 100%)	22.57	14.24	36.81	71.19	142.39	392.78
Funds	Other Funds (Includes Local, OPWC, & Issue 1 In Combination with State & Federal Funds)		19.67	7.42	27.09	37.08	74.16	212.49
Ohio Public	Ohio Public W	orks Commission	14.90	3.73	18.63	18.63	37.26	111.77
Works (LTIP and Issue 1)	Local Match		3.73	0.93	4.66	4.66	9.31	27.94
100%	6 Local, Private,	Other	30.15	7.54	37.68	37.68	75.37	226.10
	Federal		82.24	37.74	119.98	188.70	377.39	1,063.46
Subtotal	State		37.47	17.96	55.44	89.82	179.64	504.55
	Local, Other		53.54	15.88	69.43	79.42	158.84	466.53
Total (2020 dolla	Total (2020 dollars)		173.26	71.59	244.84	357.94	715.88	2,034.54
Total (Year of Expenditure dollars)		173.26	-	253.43	429.53	1,009.39/ 1,267.11	2,959.46	

Transit Service

Greater Dayton Regional Transit Authority (GDRTA)

The long range planning process used by GDRTA is based upon strategic plan priorities, as well as federal directives. This planning process has led to the current transit system and has also assisted in the development of the 2050 LRTP. GDRTA provides approximately 9 million passenger-trips per year through an extensive network of fixed routes, covering nearly 1,000 miles of directional roadways. Further, GDRTA's Transit Centers,



located throughout Montgomery County, connect the central city and the suburban areas with bus services at centralized locations. The following assumptions were made in developing the GDRTA Long Range Transportation Plan project lists, costs, and revenues:

Service Configuration

- Service area is likely to remain the same, however funding constraints could result in service alterations or reductions.
- RTA will continue to operate as a multiple transit center/transfer system.
- RTA will pursue dual-mode vehicle technology for service extensions off existing electric trolley wire.
- RTA is in compliance with ADA and will continue to work with human services transportation coordination efforts.
- Annual vehicle hours and vehicle miles will slightly decrease.
- Annual ridership will slightly increase
- Average fare will slightly increase.

Fleet Changes — RTA anticipates a fleet size as follows:

- Electric Trolleys 45;
- Diesels 30' to 40' 120;
- Small Connect Vehicles 75; and
- Contingency 35' to 40" Diesels remain at 20.

Capital Needs — Fleet Replacement

- Electric trolley buses will be replaced every 18-20 years
- Diesel buses will be replaced every 10-12 years
- Demand response vehicles will be replaced every 5-7 years

Electric Trolleybus Infrastructure — Continued maintenance of substation and overhead distribution system.

Other

- Utility vehicle fleet to be replaced several times over the 2016-2050 period;
- Vehicle equipment;

- Upgrades to our facilities and hubs;
- Office/shop equipment;
- Capitalized leases;
- Planning projects; and
- Community projects.

Operating Costs

• Annual operating costs: held constant and adjusted for inflation; and

The capital program, costs and revenues, and sources of revenues for 2021-2050 are presented in detail in Tables 6 and 7. The expenditures were adjusted to year of expenditure dollars based on an average of 2.3 percent per year in all years for operating costs. Capital costs were adjusted based on the expected increase in spending in the project area an average of 2.3 percent per period.

Table 6 — GDRTA 2050 LRTP Costs and Revenues (in millions of Year of Expenditure dollars)

Program	Short Term Plan I-5 years (2021-2025)	Short Term Plan II-5 years (2026-2030)	Long Term Plan-10 years (2031-2040)	Long Term Plan-10 years (2041-2050)	For Full 30 Year Plan
Total Costs	488.39	524.32	1,152.73	1,422.96	3,588.40
- Capital Costs	125.36	124.79	203.56	231.44	685.15
- Operating/Maintenance Costs	363.03	399.53	949.17	1,191.52	2,903.25
Total Revenues	488.39	524.32	1,152.73	1,422.96	3,588.40
- Specified Revenues	485.53	520.72	1,144.17	1,412.22	3,562.64
- Local Reserve Funds	2.86	3.60	8.56	10.74	25.76

Source: GDRTA

Table 7 — GDRTA 2050 LRTP Sources of Revenues (in millions of Year of Expenditure dollars)

Sources	Short Term Plan I-5 years (2021-2025)	Short Term Plan II-5 years (2026-2030)	Long Term Plan-10 years (2021-2030)	Long Term Plan-10 years (2031-2040)	For Full 30 Year Plan
Total Capital Funds	125.35	124.79	203.56	231.45	685.14
Federal Funds					
- FTA 5307	31.86	60.04	77.31	159.79	329.00
- FTA 5337	43.17	33.04	72.04	11.87	160.12
- FTA Other	25.09	6.75	13.50	13.5	58.84
ODOT Capital	2.06	0	0	0	2.06
GDRTA Capital Funds	23.17	24.96	40.71	46.29	135.12
Total Operating/Maintenance Funds	363.04	399.53	949.17	1,191.51	2,903.25
Local					
- Passenger Revenue	38.72	47.05	111.77	140.31	337.85
- Local Sales Tax	207.32	235.39	559.23	702.01	1,703.95
- Local Other (interest, misc.)	4.90	5.32	12.64	15.87	38.73
Federal					
- Federal 5307	71.17	58.45	138.86	174.32	442.80
- Federal 5337	28.07	39.00	92.67	116.33	276.07
- Federal Other	10.00	10.71	25.45	31.95	78.11
GDRTA Reserve Funds	2.86	3.61	8.55	10.72	25.74
Grand Total - Revenue Sources	488.39	524.32	1,152.73	1,422.96	3,588.40

Source: GDRTA

Greene County Transit Board (Greene CATS Public Transit)

The agency provides a combination of traditional demand responsive and flex routes operating seven days a week. It is wheelchair accessible and serves a mix of fare-paying and contract riders. The transit service area is Greene County with trips to neighboring counties on a limited basis. In addition, the Greene County Transit Board works with local social services agencies through its Mobility Management Program to help coordinate social services transportation and to provide a wider range of transportation options to riders.



The following assumptions were made in developing the Greene CATS Public Transit project lists, expenses, and revenues for the 2050 LRTP:

- Cares Act Funding;
- Increased Ohio of Department of Transportation formula funding
- Reduction in FTA funding due to reduction in total annual trips provided from reduction of Developmentally Disabled service
- Reduction in FTA funding as startup grant for expanded service on Flex Routes runs out
- Reduction in contract and fare revenue due to coronavirus pandemic
- No change in fares through 2021
- No dedicated source of local revenue
- Reduced peak, evening, and weekend, flex route service beginning in 2021
- Continue to provide contract service for local social service agencies; and
- Continue Mobility Management Program.

Table 8 — Greene CATS Public Transit 2050 LRTP Expenses (in millions of 2020 / Year of Expenditure dollars)

Program	Short Term Plan I-5 years (2021-2025)	Short Term Plan II-5 years (2026-2030)	Long Term Plan-10 years (2021-2030)	Long Term Plan-10 years (2031-2040)	For Full 30 Year Plan
Capital Costs	1.27	1.27	2.57	2.57	7.68
- Bus Purchase	1.06	1.06	2.16	2.16	6.44
- Shop/Office purchase	0.21	0.21	0.41	0.41	1.24
Operating/Maint. Costs	13.61	13.61	27.22	27.22	81.66
Total (2020 dollars)	14.88	14.88	29.79	29.79	89.34
Total (YOE dollars)	15.24	17.86	42.00	53.73	127.83

Source: Greene CATS

Table 9 — Greene CATS Public Transit 2050 LRTP Revenues (in millions of 2020 / Year of Expenditure dollars)

Sources	Short Term Plan I-5 years (2021-2025)	Short Term Plan II-5 years (2026-2030)	Long Term Plan-10 years (2021-2030)	Long Term Plan-10 years (2031-2040)	For Full 30 Year Plan
- Passenger Fares	0.54	0.54	1.08	1.08	3.24
- FTA formula	7.50	7.50	15.00	15.00	45.00
- ODOT formula	1.20	1.20	2.40	2.40	7.20
- Contracts	5.65	5.65	11.3	11.3	33.90
Total (2020 dollars)	14.89	14.89	29.78	29.78	89.34
Total (YOE dollars)	15.24	17.86	42.00	53.73	127.83

Source: Greene CATS

Miami County Transit System

Miami County Transit System provides demand responsive transit services within the geographic area of Miami County. The County anticipates continued increases in benefits for local human service organizations. Many of these organizations have the opportunity to utilize Miami County Transit as a method of expanding existing programs.

The Miami County Commissioners plan to utilize a combination of federal, state, and local funds to financially support the program and its capital requirements as shown in Tables 10 and 11.

Table 10 — Miami County Transit 2050 LRTP Costs (in millions of Year of Expenditure dollars)

Program	Short Term Plan I-5 years (2021-2025)	Short Term Plan II-5 years (2026-2030)	Long Term Plan-10 years (2021-2030)	Long Term Plan-10 years (2031-2040)	For Full 30 Year Plan
Total Capital Costs	1.18	1.32	3.13	3.94	9.57
- Small Buses - 90 (3 per year)	1.14	1.27	3.03	3.81	9.25
- Shop/Office Equipment	0.01	0.02	0.03	0.05	0.11
- Security Equipment	0.03	0.03	0.07	0.08	0.21
Total Operating/Maint. Costs	6.92	7.66	18.20	22.85	55.63
Total	8.10	8.98	21.33	26.79	65.20

Source: Miami County Transit

Table 11 — Miami County Transit 2050 LRTP Revenues (in millions of Year of Expenditure dollars)

Sources	Short Term Plan I-5 years (2021-2025)	Short Term Plan II-5 years (2026-2030)	Long Term Plan-10 years (2021-2030)	Long Term Plan-10 years (2031-2040)	For Full 30 Year Plan
FTA Formula	3.54	3.74	8.88	11.16	27.32
FTA Discretionary (1 bus/year)	0.30	0.34	0.81	1.01	2.46
ODOT Capital (1 bus/year)	0.30	0.34	0.81	1.01	2.46
ODOT Assistance	0.63	0.71	1.68	2.11	5.13
Fares, Contract Rev., Misc.	1.77	2.06	4.89	6.14	14.86
Local Support	1.55	1.78	4.25	5.36	12.94
Total	8.10	8.98	21.33	26.79	65.20

Source: Miami County Transit

Public Transit Human Services Transportation

In the Dayton urbanized area, MVRPC, in cooperation with the regional transit agencies, took the lead in developing the Coordinated Public Transit Human Services Transportation Plan which was endorsed by the MVRPC Board of Directors in April 2008. In 2012, the HSTC plan was updated documenting progress of the initial findings and identifying new focus areas. Most of these findings remain true in 2016, largely due to underlying demographic trends, such as the aging of the Region's population and the related increase in people with disabilities.

The Miami Valley Regional Planning is the Designated Recipient for Section 5310 funds in Greene, Montgomery, Miami, and northern Warren Counties.

Financial forecasts for human services transportation are based on annual averages as shown in the current SFY 2016-2019 TIP and are assumed to be in 2015 dollars. Based on the annual averages, three plan periods were forecasted: 2020, 2021-2030, and 2031-2040. Funding for the periods beyond the TIP were inflated using the FY 2016, U.S. Office of Management and Budget, U.S. Budget Economic Assumptions for Consumer Price Index for FY 2019 (2.3 percent per year) to project inflation into the future. This resulted in inflation factors of 1.13, 1.26, and 1.58 for years 2020, 2025, and 2035, the mid-years of the Plan periods. The results can be seen in Table 12. As a result the scope of programs and projects will be constrained by available future revenue.

Table 12 — 2050 Forecasted Cost and Revenues for Human Services Transportation (in millions of 2020 / Year of Expenditure dollars)

	Cost/Revenues							
Program	Four Year TIP (2021-2024)	Annual Average	Short Term Plan I-5 years (2021-2025)	Short Term Plan II-5 years (2026-2030)	Long Term Plan-10 years (2031-2040)/ (2041-2050)	For Full 30 Year Plan		
Total (2020 dollars)	2.70	0.68	3.38	3.38	6.76	20.28		
Total (YOE dollars)	2.70	-	3.46	4.05	9.53/11.97	29.02		

Alternative Modes and Development Choices

As the Region grows, it is essential to plan a comprehensive transportation system that serves the needs of travelers using all modes of transportation, allowing for reasonable mobility choices for all residents. The 2050 LRTP addresses future transportation needs by including programs and projects that provide alternatives to traditional forms of transportation and thereby aid in curtailing the demand for single occupancy vehicle travel, reducing congestion, harmful emissions, and the reliance on petroleum-based products. Alternative modes and development choice strategies can also spur economic development in existing communities, create strong places with a sense of community, and help preserve open space and environmentally sensitive areas.

Financial forecasts for the programs and projects described in this chapter are based on annual averages as shown in the current SFY 2021-2024 TIP and are assumed to be in 2020 dollars. Based on the annual averages, four plan periods were forecasted: 2025, 2026-2030, 2031-2040, and 2041-2050. The RIDESHARE and Air Quality programs are proportional to the CMAQ population of the Region and since the Region population is stable no growth in funding is forecasted. The results can be seen in Table 13 below. As a result the scope of programs and projects will be constrained by available future revenue. It is also important to note that MVRPC does not forecast funding for the regional bikeway programs; these programs are funded as revenues become available and since the passing of the Regional Complete Streets Policy in 2011, many roadway projects now include bike and pedestrian elements.

Table 13 — 2050 Forecasted Cost and Revenues for Alternative Modes (in millions of 2020 / Year of Expenditure dollars)

	Cost/Revenues							
Program	Four Year TIP (2021-2024)	Annual Average	Short Term Plan I-5 years (2021-2025)	Short Term Plan II-5 years (2026-2030)	Long Term Plan-10 years (2031-2040)/ (2041-2050)	For Full 30 Year Plan		
RIDESHARE	1.86	0.47	2.33	2.33	4.66	13.98		
Air Quality	1.76	0.44	2.20	2.20	4.40	13.20		
Bikeway/Pedestrian	20.25	-	20.25	-	-	20.25		
Total (2020/YOE dollars)	8.83	-	24.78	4.53	9.06	47.43		